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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,066	01/31/2002	Robert W. Aukerman	P 1028.11004	2497

7590

05/21/2003

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EXAMINER

LIANG, LEONARD S

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/066,066

Applicant(s)

AUKERMAN, ROBERT W.

Examiner

Leonard S Liang

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 4/30/03 & 2/19/03
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8 is/are allowed.
- 6) ☒ Claim(s) 1-5,7 and 9-13 is/are rejected.
- 7) ☒ Claim(s) 6, 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION*****Claim Rejections - 35 USC § 102***

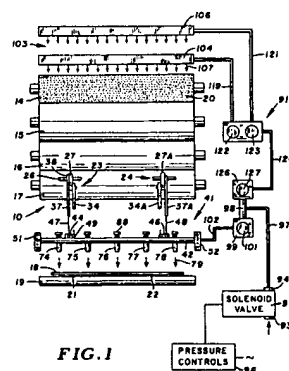
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kolb (US Pat 5791247). Kolb discloses:

- {claim 9} An ink printing and drying system for high speed printing including a print head for depositing ink on a traveling sheet of material, the system being coupled to a source of pressurized gas (figure 1; column 1, line 49-column 3, line 39); a plurality of plenums associated with the print head, the plenums disposed so as to extend over the sheet and each of the plenums including an associated plurality of orifices spaced apart from one another so as to define respective drying portions thereof (figure 1, reference 104, 106); a corresponding plurality of fluid flow valves for controlling fluid communication between the plenums and the source of pressurized gas, one of the plurality of fluid flow valves corresponding to one of the plurality of plenums (figure 1, reference 122, 123); a controller for controlling the valves, the controller being adapted to operate the valves independently of one another in response to information about the printing (figure 1, reference 127; column 2, lines 36-43)



- {claim 10} the drying portions provide substantially complete laterally extending coverage of the sheet, and wherein the drying portion of at least one of the plenums

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provides a substantially different range of laterally extending coverage of the sheet than at least one other of the plenums (figure 1, reference 104, 106)

- {claim 11} at least two of the plenums are spaced substantially apart from one another in a direction of travel of the sheet by a predetermined distance, and wherein the drying portions of the plenums are each substantially laterally co-extensive (figure 1, reference 104, 106)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 7, and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolb (US Pat 5791247) in view of Roy et al (US Pat 6428159).

Kolb discloses:

- {claim 1} An ink drying system for high speed printing on a traveling sheet of material, the system being coupled to a source of pressurized gas (figure 1; column 1, line 49- column 3, line 39); a plurality of plenums disposed so as to extend over the sheet, the plenums each including an associated plurality of orifices spaced apart from one another so as to define respective drying portions thereof (figure 1, reference 104, 106); a corresponding plurality of fluid flow valves for controlling fluid communication between the plenums and the source of pressurized gas (figure 1, reference 122, 123); a controller for controlling the valves (figure 1, reference 127)
- {claim 2} the drying portions provide substantially complete laterally extending coverage of the sheet, and wherein the drying portion of at least one of the plenums provides a substantially different range of laterally extending coverage of the sheet than at least one other of the plenums (figure 1, reference 104, 106)

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- {claim 3} at least two of the plenums are spaced substantially apart from one another in a direction of travel of the sheet by a predetermined distance, and wherein the drying portions of the plenums are each substantially laterally co-extensive (figure 1, reference 104, 106)
- {claims 4 and 5} selecting one of the plenums to receive more of the pressurized gas than at least some of the other of the plenums (column 2, lines 35-43)
- {claim 7} A method for drying ink in a high speed printing system, the ink being deposited on a traveling sheet of material, the sheet being coupled to a source of pressurized gas (figure 1; column 1, line 49-column 3, line 39); providing a first plenum disposed so as to extend over the sheet (figure 1, reference 106); providing a second plenum disposed so as to extend over the sheet, wherein the plenums each include an associated plurality of orifices spaced apart from one another so as to define respective drying portions thereof (figure 1, reference 104)
- {claims 12 and 13} an ink printing and drying system (as applied to claims 9 and 10); selecting one of the plenums to receive more of the pressurized gas than at least some of the other of the plenums (column 2, lines 35-43)

Kolb differs from the claimed invention in that it does not disclose:

- {claim 1} controlling the valves based on the amount of ink deposited during printing
- {claims 4 and 5} a quantity of the ink is defined by a spatially varying distribution, and wherein the controller is adapted, based on the distribution
- {claim 7} identifying a varying distribution of the ink; identifying one of the plenums for which the orifices most closely matches the distribution; selecting the one plenum to receive more of the pressurized gas than the other of the plenums
- {claims 12 and 13} a quantity of the ink is defined by a spatially varying distribution, and wherein the controller is adapted, based on the distribution

Roy et al discloses:

- {claim 1} controlling the drying (and thus, the valves) based on the amount of ink deposited during printing (column 7, lines 15-22)
- {claims 4 and 5} a quantity of the ink is defined by a spatially varying distribution, and wherein the controller is adapted, based on the distribution (column 7, lines 15-22)
- {claim 7} identifying a varying distribution of the ink (column 7, lines 15-22)

- {claims 12 and 13} a quantity of the ink is defined by a spatially varying distribution, and wherein the controller is adapted, based on the distribution (column 7, lines 15-22)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Roy et al into the invention of Kolb. The motivation for the skilled artisan in doing so is to gain the benefit of adjusting the level of drying based on the ink amount in order to ensure proper drying (column 7, lines 15-22). The combination naturally suggests identifying one of the plenums for which the orifices most closely matches the distribution; selecting the one plenum to receive more of the pressurized gas than the other of the plenums (in view of the teachings of Kolb column 2, lines 36-43) and Roy et al (column 7, lines 15-22).

#### *Allowable Subject Matter*

3. Claims 6 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 6 and 14 include the limitation “wherein said second amount of the pressurized gas is predetermined based on the first amount, and wherein the difference between the first time and said second time is substantially equal to the distance divided by the speed of travel of the sheet,” which was not found, taught, or suggested in the prior arts.

4. Claim 8 is allowed.

The primary reason for the allowance of claim 8 is the inclusion of the method step of “selecting the other of the two plenums to receive a second predetermined amount of the pressurized gas at a second time, wherein the second amount of the pressurized gas is predetermined based on the first amount, and wherein the difference between the first time and the second time is substantially equal to the distance divided by the speed of travel of the sheet.” It is this step found in each of the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

#### *Response to Arguments*

5. Applicant's arguments with respect to claims 1-5 and 7 have been considered but are moot in view of the new ground(s) of rejection.

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*Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S Liang whose telephone number is (703) 305-4754. The examiner can normally be reached on 8:30-5 Monday-Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on (703) 308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

IsI

LSL

May 15, 2003

  
JUDY NGUYEN  
PRIMARY EXAMINER